



Columbia Environmental Research Center

**Los Alamos National Laboratory Use Study
Phase II: Toxicity Testing of Surface Waters
and Sediment Pore Waters**

Appendices B & C

**Los Alamos National Laboratory Use Assessment
Phase II**

**Toxicity Testing of
Surface Waters and Sediment Pore Waters at
Los Alamos National Laboratory**

**Appendix B: Water Quality Data
Appendix C: Toxicity Test Ancillary Data**

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Appendix B
Water Quality Data

Appendix B, Table A. In-situ water quality measurements in streams located at Los Alamos National Lab. Measurements were taken in the stream, at the time of retrieval of daily composite samples. Parameters were measured daily during 1996 toxicity testing of Los Alamos National Lab streams. Conductivity is expressed as $\mu\text{mhos}/\text{cm}^3$, temperature in degrees Centigrade, and DO (dissolved oxygen concentration) is in mg/L.

site	parameter	8/12/96	8/13/96	8/14/96	8/15/96	8/16/96	8/17/96	8/18/96	8/19/96	Mean	Standard deviation
Los Alamos Canyon above Reservoir	pH	7.99	7.7	7.5	7.49	7.51	7.63	7.7	7.93	7.7	0.192
	Conduct.	80	79	80	80	70	75	78	79	77.6	3.502
	DO	7	7.1	7.35	7.7	7.9	7.2	7.7	7.45	7.4	0.320
	temp	14	13.5	12.5	12	13	11	12	13	12.6	0.954
Los Alamos Canyon below Reservoir	pH	7.7	7.61	7.14	7.31	7.29	7.32	7.41		7.4	0.195
	Conduct.	95	90	90	87	85	83	90		88.6	3.952
	DO	6.4	7.45	8.4	6.8	7.1	6.6	6.9		7.1	0.668
	temp	17	15.5	15	13.5	14	13	14		14.6	1.367
Sandia Canyon	pH	7.6	7.7	7.68	7.62	7.57	7.83	7.64	7.74	7.7	0.084
	Conduct.	350	360	340	402	320	460	390	346	371.0	44.709
	DO	6.3	6.5	6.6	6.6	6.7	5.6	6.2	6	6.3	0.372
	temp	15	15.5	15	16.5	16	15	18	15.5	15.8	1.032
Pajarito Canyon	pH	8	8.06	8.12	7.83	7.87	7.63	7.87	7.67	7.9	0.174
	Conduct.	121	124	120	122	121	120	120	120	121.0	1.414
	DO	7.9	8	8.2	7.21	8.4	7.2	8.1	7.6	7.8	0.447
	temp	11.2	13	11	11.6	12	11	13	12	11.9	0.812
Cañon de Valle	pH	7.53	7.7	7.8	7.84	7.2	7.84	7.84	7.34	7.6	0.252
	Conduct.	345	175	179	171	172	170	175	175	195.3	60.575
	DO	7.32	6.8	7.5	6.4	7.9	6.7	7.4	7.3	7.2	0.490
	temp	13.5	13.4	16	13.1	13	12	13.5	13	13.4	1.142

Appendix B, Table B. Water quality of daily composite sample. Parameters measured daily during 1996 toxicity testing of Los Alamos National Lab streams. Well water and ASTM Soft were transported from Columbia Missouri in 5 gallon carboys, and a subsample of the carboy in use was measured daily. LA 1 is the Los Alamos Canyon site above the reservoir, and LA 2 is below the reservoir. All values except pH and conductivity are in mg/L, hardness and alkalinity expressed as mg/L as CaCO₃. Conductivity is expressed as $\mu\text{mhos}/\text{cm}^3$.

Site	Date	pH	Conductivity	DO	TAN	Alkalinity	Hardness	Turbidity
Well	08/12/96	7.90		0.050	202		186	
Well	08/13/96	8.02	495	5.5	0.104	156	210	
Well	08/14/96	8.36	454	6.1	0.104	213	243	0.2
Well	08/15/96	7.89	560	6.1	0.066	214	244	0.2
Well	08/16/96	8.17	510	5.9	0.046	215	240	0.4
Well	08/17/96	8.42	480	6.7	0.024	202	229	0.2
Well	08/18/96	8.37	460	5.6	0.016	185	213	0.2
mean		8.16	493	6.0	0.059	198	223	0.2
sd		0.23	39	0.4	0.036	21.3	21.6	0.1
ASTM Soft	08/12/96	7.78		0.040	44		40	
ASTM Soft	08/13/96	7.51	125	5.7	0.112	48	59	2.2
ASTM Soft	08/14/96	7.84	200	6.2	0.112	51	59	2.8
ASTM Soft	08/15/96	7.92	155	6.1	0.046	32	43	0.2
ASTM Soft	08/16/96	8.00	190	6.0	0.008	34	46	0.3
ASTM Soft	08/17/96	7.83	170	5.9	0.048	40	52	0.1
ASTM Soft	08/18/96	7.75	155	5.9	0.006	40	49	0.1
mean		7.80	166	6.0	0.053	41.2	49.7	1.0
sd		0.15	27	0.2	0.044	6.94	7.4	1.2

Site	Date	pH	Conductivity	DO	TAN	Alkalinity	Hardness	Turbidity
LA 1	08/12/96	7.66	98	0.046	40	30		
LA 1	08/13/96	7.69	102	7.2	0.053	38	33	3.1
LA 1	08/14/96	7.68	101	7.0	0.069	39	35	4.6
LA 1	08/15/96	7.81	102	7.0	0.040	36	35	3.1
LA 1	08/16/96	7.90	93	6.7	0.004	40	32	2.9
LA 1	08/17/96	7.93	100	7.2	0.035	42	32	2.2
LA 1	08/18/96	7.70	90	7.1	0.006	40	31	2.7
mean		7.77	98	7.0	0.036	39.2	32.6	3.1
sd		0.11	5	0.2	0.024	1.88	1.9	0.8
LA 2	08/12/96	7.44	104		0.058	38	35	
LA 2	08/13/96	7.60	102	6.8	0.078	40	36	4.7
LA 2	08/14/96	7.53	105	7.1	0.046	41	39	5.5
LA 2	08/15/96	7.66	109	7.0	0.035	49	35	2.6
LA 2	08/16/96	7.75	99	6.7	0.085	41	35	2.8
LA 2	08/17/96	7.89	109	7.0	0.028	41	33	2.7
LA 2	08/18/96	7.58	101	6.7	0.008	41	36	3.8
mean		7.64	104	6.9	0.048	41.5	35.6	3.7
sd		0.15	4	0.2	0.027	3.45	1.81	1.2

Site	Date	pH	Conductivity	DO	TAN	Alkalinity	Hardness	Turbidity
Sandia Canyon	08/12/96	7.80	434	0.070	128		74	
Sandia Canyon	08/13/96	7.77	418	7.3	0.076	132	78	7.5
Sandia Canyon	08/14/96	7.80	412	6.7	0.110	130	75	7.7
Sandia Canyon	08/15/96	8.01	580	7.2	0.040	136	82	8.1
Sandia Canyon	08/16/96	7.98	418	6.1	0.030	129	80	14.5
Sandia Canyon	08/17/96	7.97	415	7.6	0.033	134	85	7.3
Sandia Canyon	08/18/96	7.90	350	7.5	0.010	134	79	14.5
mean		7.89	432	7.1	0.053	132	79	9.9
sd		0.10	70	0.6	0.034	2.97	3.82	3.5
Pajarito Canyon	08/12/96	7.54	151	0.040	42		40	
Pajarito Canyon	08/13/96	7.65	148	8.8	0.043	44	50	12.5
Pajarito Canyon	08/14/96	7.61	158	7.1	0.053	47	46	19.0
Pajarito Canyon	08/15/96	7.92	156	7.3	0.020	46	48	15.1
Pajarito Canyon	08/16/96	7.88	141	6.8	0.029	47	50	12.0
Pajarito Canyon	08/17/96	7.98	150	7.6	0.020	49	47	10.5
Pajarito Canyon	08/18/96	7.73	141	7.0	0.010	51	46	10.1
mean		7.76	149	7.4	0.031	46.6	46.7	13.2
sd		0.17	7	0.7	0.015	2.996	3.4	3.3

Site	Date	pH	Conductivity	DO	TAN	Alkalinity	Hardness	Turbidity
Cañon de Valle	08/12/96	7.73	270	0.060	80		65	
Cañon de Valle	08/13/96	7.77	190	7.8	0.040	82	70	4.6
Cañon de Valle	08/14/96	7.76	230	6.4	0.054	82	67	7.8
Cañon de Valle	08/15/96	7.94	212	7.0	0.031	82	68	3.4
Cañon de Valle	08/16/96	7.88	198	7.4	0.006	84	67	4.9
Cañon de Valle	08/17/96	8.01	210	7.5	0.024	83	66	3.1
Cañon de Valle	08/18/96	7.94	203	6.8	0.010	83	65	3.2
mean		7.86	216	7.2	0.032	82.3	66.9	4.5
sd		0.11	27	0.5	0.021	1.25	1.77	1.8

Appendix B, Table C. Water quality of daily composite sample, continued. Parameters measured twice during 1996 toxicity testing of Los Alamos National Lab streams. Well water and ASTM Soft were transported from Columbia Missouri in 5 gallon carboys, and a subsample of the carboy in use on that day was measured. LA 1 is the Los Alamos Canyon site above the reservoir, and LA-2 is below the reservoir. All data is in mg/L.

Water source	Date	NO ₂ /NO ₃	SO ₄	PO ₄	Cl	Ca
Well	08/12/96		61	0.03	24	56
Well	08/16/96	0.08	58	0.01	18.6	58
mean		0.08	59.5	0.02	21.3	57
ASTM Soft	08/12/96		38	0.01	0.89	14
ASTM Soft	08/16/96	0.05	37	0	2.6	18
mean		0.05	37.5	0.005	1.745	16
LA 1	08/12/96	0.06	2	0.13	8.3	25
LA 1	08/16/96	0.07	4	0.25	9.2	30
mean		0.065	3	0.19	8.75	28
LA 2	08/12/96	0.04	2	0.13	9.1	22
LA 2	08/16/96	0.05	4	0.2	5.4	22
mean		0.045	3	0.165	7.3	22
Sandia	08/12/96	0.23	36	9.6	40.5	37
Sandia	08/16/96	0.34	58	13.1	35.5	38
mean		0.29	47	11.4	38	37
Pajarito	08/12/96	0.17	7	0.12	16.6	33
Pajarito	08/16/96	0.17	7	0.16	12.9	38
mean		0.17	7	0.14	14.8	36
C. de Valle	08/12/96	0.08	6	0.17	17.4	41
C. de Valle	08/16/96	0.08	8	0.17	12	42
mean		0.08	7	0.17	14.7	41

Appendix B, Table D. Mean element concentration ($\mu\text{g/L}$) of 24 hour composite surface water sample collected from Los Alamos National Lab streams. Mean is of four samples, taken on 8/13, 8/14, 8/16, and 8/20 of 1996, except Sandia Canyon, where no sample was taken on 8/20/96. Analysis was by semiquantitative ICP-MS scan. In the case of non-detects, half of the detection limit was used in the calculation of the mean, unless all samples for that site were non-detects for that element.

Element	Est. Det.Limit	Los Alamos 1	Los Alamos 2	Sandia Canyon	Pajarito Canyon	Cañon de Valle
Li	0.010	6.06	3.72	23.01	2.50	4.36
Na	0.010	6498.81	6173.24	55524.63	11495.46	17835.54
Mg	0.010	2997.10	2969.66	4444.02	3359.76	4320.03
Al	0.010	43.51	53.41	30.78	82.90	33.95
K	0.100	2591.01	2378.06	9291.63	2894.39	2608.22
Ca	0.100	7285.10	8071.37	17943.30	10716.50	15836.34
Sc	0.010	8.35	6.61	18.62	5.79	8.59
Ti	0.010	6.58	5.77	17.39	6.22	6.53
V	0.010	2.36	1.15	8.15	1.73	1.07
Cr	0.010	1.32	0.36	4.40	1.04	0.95
Mn	0.010	2.54	20.50	52.80	15.16	22.49
Fe	0.010	40.50	62.56	273.96	96.86	117.52
Co	0.010	0.06	0.09	0.18	0.14	0.18
Ni	0.010	1.62	1.43	2.58	2.45	2.82
Cu	0.010	3.19	1.71	6.84	9.27	4.72
Zn	0.010	25.28	16.25	30.78	33.36	29.39
Ga	0.010	0.02	0.04	0.05	0.05	0.01
Ge	0.010	0.01	ND	0.19	ND	0.01
As	0.010	0.60	0.57	5.14	0.70	0.66
Seb	0.53	ND	ND	ND	ND	ND
Rb	0.010	19.38	25.77	45.41	40.92	67.45
Sr	0.010	43.29	45.50	46.73	39.95	62.68
Y	0.001	0.12	0.17	0.16	0.31	0.40
Zr	0.001	0.13	0.14	0.16	0.25	0.10

Element	Est. Det.Limit	Los Alamos 1	Los Alamos 2	Sandia Canyon	Pajarito Canyon	Cañon de Valle
Nb	0.001	0.02	0.03	0.04	0.02	0.01
Mo	0.001	0.40	0.46	54.59	0.88	0.89
Ru	0.001	ND	ND	ND	ND	ND
Pd	0.010	ND	0.01	0.00	ND	ND
Ag	0.001	0.03		0.69	0.19	0.01
Cd	0.010	1.70	1.49	2.36	3.40	2.35
In	0.001	ND	ND	ND	ND	ND
Sn	0.010	0.28	0.12	0.33	0.23	0.30
Sb	0.001	0.02	ND	0.24	0.04	0.04
Te	0.010	0.01	ND	ND	0.01	ND
Cs	0.001	0.06	0.02	0.08	0.02	0.01
Ba	0.001	31.21	26.01	26.06	49.56	5938.95
La	0.001	0.07	0.12	0.18	0.24	0.10
Ce	0.001	0.15	0.31	0.36	0.33	0.11
Pr	0.001	0.02	0.04	0.04	0.07	0.02
Nd	0.001	0.08	0.11	0.12	0.22	0.08
Sm	0.001	0.01	0.01	0.02	0.04	0.02
Eu	0.001	ND	ND	ND	ND	0.26
Gd	0.001	0.02	0.02	0.02	0.04	0.02
Tb	0.001	ND	ND	ND	ND	
Dy	0.001	0.01	0.01	0.02	0.04	0.04
Ho	0.001	ND	ND	ND	ND	0.01
Er	0.001	0.01	0.01	0.02	0.02	0.06
Tm	0.001	ND	ND	ND	0.01	0.01
Yb	0.001	ND	0.01	ND	0.03	0.14
Lu	0.001	ND	ND	ND	0.01	0.03
Hf	0.001	0.00	0.00	ND	0.01	0.01
Ta	0.001	ND	ND	ND	ND	ND
W	0.001	0.10	0.04	1.40	0.04	0.09
Re	0.001	ND	ND	0.01	0.00	0.01

Element	Est. Det.Limit	Los Alamos 1	Los Alamos 2	Sandia Canyon	Pajarito Canyon	Cañon de Valle
Os	0.001	ND	ND	ND	ND	ND
Ir	0.001	0.96	0.52	0.46	0.61	0.61
Pt	0.001	1.70	1.24	0.72	1.09	0.93
Au	0.001	ND	ND	ND	ND	ND
Tl	0.001	ND	0.02	0.01	ND	ND
Pb	0.001	0.56	0.41	1.99	1.27	1.20
Th	0.001	0.05	0.05	0.04	0.02	0.01
U	0.001	0.04	0.02	0.30	0.08	0.13

Appendix B, Table E. Results of semiquantitative ICP-MS scan of 62 elements in sediment pore water collected in 1997 from Los Alamos National Lab streams. All results in $\mu\text{g/L}$.

Element	Est. Det. Limit	Los Alamos 1	Sandia Canyon	Pajarito Canyon	Cañon de Valle
Li	0.010	4.40	18.4	1.65	3.10
Na	0.010	5143	55992	8927	12887
Mg	0.010	2021	3963	2721	3098
Al	0.010	53.5	66.8	57.0	72.6
K	0.100	2258	8280	2165	2090
Ca	0.100	6224	15957	8711	11233
Sc	0.010	9.15	12.2	5.60	5.45
Ti	0.010	7.70	11.7	3.60	4.25
V	0.010	342	332	372	340
Cr	0.010	10.8	17.4	44.2	11.8
Mn	0.010	118	352	125	217
Fe	0.010	ND ¹	55.2	137	ND
Co	0.010	0.40	0.50	0.85	0.35
Ni	0.010	1.55	3.35	17.70	2.05
Cu	0.010	2.15	7.10	3.40	2.95
Zn	0.010	179	50.6	71.6	61.4
Ga	0.010	0.85	1.05	1.10	1.00
Ge	0.010	0.50	0.70	0.75	0.50
As	0.010	0.35	2.40	0.30	ND
Se	0.530	< 0.53	< 0.53	< 0.53	< 0.53
Rb	0.010	5.70	5.45	1.50	2.05
Sr	0.010	45.6	77.8	69.8	100
Y	0.001	0.20	0.15	0.25	0.35
Zr	0.001	0.20	0.25	0.15	0.15
Nb	0.001	0.05	0.05	ND	ND
Mo	0.001	0.25	48.4	1.10	0.80
Ru	0.001	ND	ND	ND	ND

Element	Est. Det. Limit	Los Alamos 1	Sandia Canyon	Pajarito Canyon	Cañon de Valle
Pd	0.010	ND	ND	ND	ND
Ag	0.001	0.20	0.90	0.25	0.10
Cd	0.010	7.25	6.15	4.90	3.30
In	0.001	ND	ND	ND	ND
Sn	0.010	10.4	10.9	11.4	9.75
Sb	0.001	0.25	0.30	0.25	0.25
Te	0.010	0.05	0.05	0.05	0.05
Cs	0.001	0.05	0.05	ND	ND
Ba	0.001	76.8	118	55.7	3782
La	0.001	0.15	0.15	0.20	0.20
Ce	0.001	0.30	0.40	0.35	0.35
Pr	0.001	0.05	0.05	0.10	0.05
Nd	0.001	0.15	0.15	0.20	0.20
Sm	0.001	0.05	ND	0.05	0.10
Eu	0.001	ND	ND	ND	0.50
Gd	0.001	0.05	0.05	0.05	0.05
Tb	0.001	ND	ND	0.05	ND
Dy	0.001	0.05	0.05	0.05	0.05
Ho	0.001	ND	ND	ND	ND
Er	0.001	ND	ND	0.05	0.05
Tm	0.001	ND	ND	0.05	ND
Yb	0.001	0.05	ND	0.05	0.20
Lu	0.001	ND	ND	ND	0.05
Hf	0.001	ND	ND	ND	ND
Ta	0.001	ND	ND	ND	ND
W	0.001	0.10	2.65	0.10	0.45
Re	0.001	ND	ND	ND	ND
Os	0.001	ND	ND	ND	ND
Ir	0.001	ND	ND	ND	ND
Pt	0.001	ND	ND	ND	ND
Au	0.001	0.05	0.35	1.10	0.40

Appendix C, Table A. Survival and moribundity in fathead minnows exposed to daily composites of surface waters collected in 1996 from Los Alamos National Lab streams.

Site	Concentration	Beaker#	Survival (%)	Moribund (%)
Los Alamos 1	100	1	90	0
		2	100	0
		3	100	10
		4	80	0
	50	1	80	0
		2	90	0
	25	1	90	0
		2	100	0
	12.5	1	100	0
		2	100	0
Los Alamos 2	100	1	100	0
		2	100	0
		3	80	0
		4	100	10
	50	1	70	0
		2	88.9	0
	25	1	80	0
		2	100	0
	12.5	1	70	0
		2	100	0
Sandia Canyon	100	1	90	0
		2	90	0
		3	90	0
		4	100	0
	50	1	100	0
		2	100	0
	25	1	90	0
		2	90	0
	12.5	1	80	0
		2	100	0

Site	Concentration	Beaker#	Survival (%)	Moribund (%)	
Pajarito Canyon	100	1	80	0	
		2	100	0	
		3	90	0	
		4	100	0	
	50	1	100	0	
		2	90	10	
	25	1	80	0	
		2	90	0	
	12.5	1	90	0	
		2	100	0	
	100	1	100	0	
		2	90	0	
		3	100	20	
		4	100	0	
Cañon de Valle	50	1	60	20	
		2	100	0	
	25	1	100	0	
		2	70	40	
	12.5	1	70	0	
		2	100	0	
	100	1	100	0	
		2	100	0	
Well		3	90	0	
		4	100	0	
ASTM soft	100	1	100	0	
		2	100	0	
		3	70	0	
		4	100	0	

Appendix C, Table B. Daily water quality measurements in individual beakers in fathead minnow toxicity test using daily composite samples from Los Alamos National Lab streams. Measurements were taken before daily water replacement; fish had been exposed to the water for approximately 24 hour before these measurements were taken.

Site	Day of test	Concentration of original sample	Dissolved oxygen (mg/L)	pH	Conductivity ($\mu\text{mhos}/\text{cm}^3$)	Temp (°C)
Well	1	100	5.8	8.35	440	22.5
Soft	1	100	6.15	7.75	180	22.5
Los Alamos 1	1	100	8.1	7.58	95	19
Los Alamos 2	1	100	7.75	7.47	100	19
Sandia Canyon	1	100	7.35	7.75	387	19.5
Pajarito Canyon	1	100	8.2	7.69	142	19
Cañon de Valle	1	100	7.6	7.76	202	20
Los Alamos 1	1	50	7.2	7.63	135	20.5
Los Alamos 2	1	50	6.7	7.53	138	20
Sandia Canyon	1	50	7.8	7.76	287	20
Pajarito Canyon	1	50	7.3	7.73	160	20
Cañon de Valle	1	50	6.9	7.75	190	20.5
Los Alamos 1	1	25	6.7	7.65	158	21
Los Alamos 2	1	25	6.5	7.57	160	21
Sandia Canyon	1	25	6.3	7.72	232	21
Pajarito Canyon	1	25	6.45	7.73	170	21.5
Cañon de Valle	1	25	6.5	7.73	185	21.5
Los Alamos 1	1	12.5	6.5	7.61	160	21
Los Alamos 2	1	12.5	6.45	7.55	165	21
Sandia Canyon	1	12.5	6.45	7.71	200	21
Pajarito Canyon	1	12.5	6.4	7.73	172	21
Cañon de Valle	1	12.5	6.4	7.69	180	21.5
Well	2	100	6.4	7.96	485	22
Soft	2	100	6.4	7.63	180	21.5
Los Alamos 1	2	100	7	7.48	135	22
Los Alamos 2	2	100	nm ¹	7.47	120	21
Sandia Canyon	2	100	6.7	7.84	490	23
Pajarito Canyon	2	100	7	7.6	165	23
Cañon de Valle	2	100	6.6	7.71	230	23
Los Alamos 1	2	50	66	7.44	142	21
Los Alamos 2	2	50	6.5	7.46	150	22

Site	Day of test	Concentration of original sample	Dissolved oxygen (mg/L)	pH	Conductivity ($\mu\text{mhos}/\text{cm}^3$)	Temp (°C)
Sandia Canyon	2	50	6.3	7.69	340	22.5
Pajarito Canyon	2	50	6.5	7.56	170	22
Cañon de Valle	2	50	6.4	7.6	200	22
Los Alamos 1	2	25	6.6	7.43	163	21.5
Los Alamos 2	2	25	6.5	7.42	160	22
Sandia Canyon	2	25	6.2	7.56	260	22
Pajarito Canyon	2	25	6.6	7.59	180	23
Cañon de Valle	2	25	6.4	7.54	195	22
Los Alamos 1	2	12.5	6.6	7.37	173	22.5
Los Alamos 2	2	12.5	6.6	7.38	170	22
Sandia Canyon	2	12.5	6.2	7.48	220	22
Pajarito Canyon	2	12.5	6.4	7.6	175	22
Cañon de Valle	2	12.5	6.3	7.45	180	22
Well	3	100	5.9	8.34	600	21
Soft	3	100	6	7.6	220	21
Los Alamos 1	3	100	6.4	7.44	160	21
Los Alamos 2	3	100	6.4	7.4	160	21
Sandia Canyon	3	100	6.2	7.8	500	21
Pajarito Canyon	3	100	6.9	7.53	210	21
Cañon de Valle	3	100	6.7	7.7	280	21
Los Alamos 1	3	50	6	7.49	220	21
Los Alamos 2	3	50	6	7.4	195	21
Sandia Canyon	3	50	5.7	7.55	250	21
Pajarito Canyon	3	50	6.3	7.48	210	21
Cañon de Valle	3	50	6.2	7.6	240	21
Los Alamos 1	3	25	6.1	7.49	210	21
Los Alamos 2	3	25	6	7.37	208	21
Sandia Canyon	3	25	5.7	7.47	295	21
Pajarito Canyon	3	25	5.9	7.54	220	21
Cañon de Valle	3	25	6	7.53	240	21
Los Alamos 1	3	12.5	6.1	7.5	215	21
Los Alamos 2	3	12.5	6	7.36	200	21
Sandia Canyon	3	12.5	5.8	7.43	250	21
Pajarito Canyon	3	12.5	6.1	7.56	215	21
Cañon de Valle	3	12.5	6.2	7.53	220	21

Site	Day of test	Concentration of original sample	Dissolved oxygen (mg/L)	pH	Conductivity (μ mhos/cm ³)	Temp (°C)
Well	4	100	6.1	8.47	550	21
Soft	4	100	6	7.82	90	22
Los Alamos 1	4	100	6.6	7.89	140	21
Los Alamos 2	4	100	6.6	7.86	140	21
Sandia Canyon	4	100	6.7	8.1	470	21
Pajarito Canyon	4	100	6.9	7.96	190	21
Cañon de Valle	4	100	7	8.08	240	21
Los Alamos 1	4	50	6.4	7.85	170	21
Los Alamos 2	4	50	6.3	7.82	170	21
Sandia Canyon	4	50	6.1	7.97	330	21
Pajarito Canyon	4	50	6.4	7.89	180	21
Cañon de Valle	4	50	6.3	7.95	210	21
Los Alamos 1	4	25	6.2	7.86	180	21
Los Alamos 2	4	25	6.2	7.8	175	21
Sandia Canyon	4	25	6	7.88	265	21
Pajarito Canyon	4	25	6.1	7.85	190	21
Cañon de Valle	4	25	6.1	7.86	210	21.5
Los Alamos 1	4	12.5	6.1	7.86	190	22
Los Alamos 2	4	12.5	6.1	7.76	180	21
Sandia Canyon	4	12.5	6.1	7.84	225	21
Pajarito Canyon	4	12.5	6	7.86	190	21
Cañon de Valle	4	12.5	6	7.8	195	21

¹not measured